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D212-664-101TRN
Job Sheet 204293



Part No: D212-664-101TRN Job Qty: 1 pcs
Part Name: Crosstube Turning Detail

Part Weight: 0 lbs Status: New Priority: Medium
Job Created: 12/5/19 Job Tracking No:
Due Date: 12/27/19 Created By: Marie Lajeunesse
Type: Stock Description:
Note: DWG REV E IPP Rev:A 08-03-06 new issue DD verified by:ec IPP Rev B 08.04.02 removed Polish EC verified by: DD
Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Mori Seiki TL-40 - 1	1 pcs		12/27/19	1.00	2.38	Mori Seiki TL-40 - 1		EB 12/11/2019
110	QC 2	1 pcs		12/27/19	0.00	0.00	QC 2 - 1		
							QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		
							QC 2 - 33		
							QC 2 - 35		
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		
							QC 2 - 50		
							QC 2 - 51		
							QC 2 - 52		
							QC 2 - 57		
							QC 2 - 62		
							QC 2 - 63		
							QC 2 - 8		
							QC 2 - 66		
							QC 2 - 64		EB 2019/12/12

			QC 2 - 65	
			QC 2 - 5	
			QC 2 - 71	
			QC 2 - 73	
			QC 2 - 69	
120	Mori Seiki TL-40 - 1 - B4B	1 pcs	12/27/19	1.00 2.38
			Mori Seiki TL-40 - 1 - B4B	BB 12/16/2019
130	QC 2	1 pcs	12/27/19	0.00 0.00
			QC 2 - 1	
			QC 2 - 12	
			QC 2 - 14	
			QC 2 - 17	
			QC 2 - 19	
			QC 2 - 2	
			QC 2 - 20	
			QC 2 - 22	
			QC 2 - 23	
			QC 2 - 25	
			QC 2 - 32	
			QC 2 - 33	
			QC 2 - 35	
			QC 2 - 39	
			QC 2 - 4	
			QC 2 - 40	
			QC 2 - 44	
			QC 2 - 45	
			QC 2 - 48	
			QC 2 - 49	
			QC 2 - 50	
			QC 2 - 51	
			QC 2 - 52	
			QC 2 - 57	
			QC 2 - 62	
			QC 2 - 63	
			QC 2 - 8	DAS
			QC 2 - 66	662019/10/17
			QC 2 - 64	9-89
			QC 2 - 65	
			QC 2 - 5	
			QC 2 - 71	
			QC 2 - 73	
			QC 2 - 69	
140	QC 8	1 pcs	12/27/19	0.00 0.00
			QC 8 - 12	
			QC 8 - 14	
			QC 8 - 17	
			QC 8 - 20	
			QC 8 - 25	
			QC 8 - 3	
			QC 8 - 32	
			QC 8 - 33	
			QC 8 - 35	
			QC 8 - 39	
			QC 8 - 4	
			QC 8 - 44	
			QC 8 - 45	
			QC 8 - 49	
			QC 8 - 58	
			QC 8 - 8	
			QC 8 - 9	
			QC 8 - 68	

				QC 8 - 67	
				QC 8 - 1 (A)	DAS
				QC 8 - 47	47 14-17-20
				QC 8 - 40	9-89
				QC 8 - 52	
				QC 8 - 23	
				QC 8 - 57	
				QC 8 - 76	
				QC 8 - 61	
145 Crosstubes - 2 - B4B	1 pcs	12/27/19	0.00 0.50	Crosstubes - 1 - B4B	
				Crosstubes - 2 - B4B	BB 12/30/19
				Crosstubes - 3 - B4B	
				Crosstubes - 4 - B4B	
150 Handfinish - 1-1 Chemical-B4B	1 pcs	12/27/19	0.00 1.00	Handfinish - 1 - 1 - B4B	
				Handfinish - 1 - 2 - B4B	
				Handfinish - 1 - 3 - B4B	SA JAN 02 2020
				Handfinish - 1 - 4 - B4B	
				Handfinish - 1 - 5 - B4B	
				Handfinish - 1 - 6 - B4B	
				Handfinish - 1 - 7 - B4B	
				Handfinish - 1 - 8 - B4B	
				Handfinish - 1 - 9 - B4B	
				Handfinish - 1 - 10 - B4B	
				Handfinish - 1 - 11 - B4B	
				Handfinish - 1 - 12 - B4B	
				Handfinish - 1 - 13 - B4B	
				Handfinish - 1 - 14 - B4B	
				Handfinish - 1 - 15 - B4B	
				Handfinish - 1 - 16 - B4B	
				Handfinish - 1 - 17 - B4B	
				Handfinish - 1 - 18 - B4B	
				Handfinish - 1 - 19 - B4B	
				Handfinish - 1 - 20 - B4B	
160 QC 7	1 pcs	12/27/19	0.00 0.00	QC 7 - 10	
				QC 7 - 13	
				QC 7 - 14	
				QC 7 - 15	
				QC 7 - 17	
				QC 7 - 18	
				QC 7 - 19	
				QC 7 - 2	
				QC 7 - 28	
				QC 7 - 3	
				QC 7 - 30	
				QC 7 - 34	
				QC 7 - 36	

				QC 7 - 37	
				QC 7 - 41	
				QC 7 - 47	
				QC 7 - 48	
				QC 7 - 51	
				QC 7 - 58	
				QC 7 - 59	
				QC 7 - 60	
				QC 7 - 9	
				QC 7 - 68	
				QC 7 - 50	
				QC 7 - 67	
				QC 7 - 40	
				QC 7 - 24	
				QC 7 - 43	
				QC 7 - 61	
				QC 7 - 81	DAS 76 9-89
				QC 7 - 76	
				QC 7 - 79	
170 Packaging 3-1 - Stock - B4B	1 pcs	12/27/19	0.00 0.00	Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	DAS 1/6/2020
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
180 QC 21 - SA	1 pcs	12/27/19	0.00 0.00	QC 21 - SA - 21	DAS 21 9-89 JAN 06 2020
				QC 21 - SA - 70	
				QC 21 - SA - 53	
Part Op 100 - (Mori Seiki CNC Lathe Large) 1- Fill tube with sand & install plugs 212-141 on both ends as per Folio FA113 3- Turn					

Descriptions: first taper section on both side as per folio FA113
110 - (QC2- Inspect parts off machine FAI/FAIB) (QC2- Inspect parts off machine FAI/FAIB)
120 - (Mori Seiki CNC Lathe Large) 1- Turn second taper on both side 4- Scribe part # and batch # using vibrating stylus on the cuff as per Dwg D212-664-141
130 - (QC2- Inspect parts off machine FAI/FAIB)
140 - (QC8- Inspect parts - second check)
145 - (Crosstubes) GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.
150 - 1- Handfinish X-TUBE INSIDE AND OUT
160 - (QC7-Inspect Chemical Conversion Coat)
170 - (Identify as per dwg & Stock Location: LOCATION : LG014
180 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6005-128	Crosstube Material	1 pcs (1 ea)	100-Mori Seiki TL-40 - 1	E139415

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Mori Seiki TL-40 - 1	D6005-128	1	8	0

Part Specifications

Specifications could not be found.

Plex 12/5/19 2:33 PM Dart.lajeunesse.marie



Container No: S239523



Part: D212-664-101TRN

Job No: 204293

Serial No/Batch: S239523

Revision: E

Inspector:

Exp Date:

Instructions:

Date: 12/11/19

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DART AEROSPACE LTD	Work Order:	204293
Description: Crosstube Assembly (205/212/412 High Fwd)	Part Number:	D212-664-141
Inspection Dwg: D212-664-141 Rev: E		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	2.202	✓		CNC-08	
	R0.063	+/-0.010	.063	✓		RG	
	2.740	+0.005/-0.000	2.739		✓	CNC-04	OK JW
	5.097	+/-0.030	5.097			CNC-08	
	2.304	+0.005/-0.000	2.307	✓		CNC-04	
	2.340	+0.005/-0.000	2.345	✓			
	2.398	+0.005/-0.000	2.403	✓			
	2.448	+0.005/-0.000	2.453	✓			
	2.498	+0.005/-0.000	2.504	✓	✓		OK JW
	2.549	+0.005/-0.000	2.554	✓			
	2.599	+0.005/-0.000	2.604	✓			
	2.671	+0.005/-0.000	2.676	✓			
	2.701	+0.005/-0.000	2.706	✓			
SIDE B	0.200	+/-0.010	.207	✓		CNC-08	
	R0.063	+/-0.010	.063	✓		RG	
	2.740	+0.005/-0.000	2.741	✓		CNC-04	
	5.097	+/-0.030	5.097	✓		CNC-08	
	2.304	+0.005/-0.000	2.312		✓	CNC-04	OK JW
	2.340	+0.005/-0.000	2.345	✓			
	2.398	+0.005/-0.000	2.403	✓			
	2.448	+0.005/-0.000	2.448	✓			
	2.498	+0.005/-0.000	2.503	✓			
	2.549	+0.005/-0.000	2.554	✓			
	2.599	+0.005/-0.000	2.604	✓			
	2.671	+0.005/-0.000	2.676	✓			
	2.701	+0.005/-0.000	2.705	✓			
	126.514	+/-0.020	126.510	✓		Tape	

Item	Qty -141	Qty -141B	Qty -141F	Part Number	Description
1	X			D212-884-141	CROSSTUBE ASSEMBLY (205/212/1412 HIGH FWD)
2		X		D212-884-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3			X	D212-884-141F	CROSSTUBE ASSEMBLY (205/212/1412 HIGH FWD) (AMODIFIED)
4	1	1	1	D6005-128	CROSSTUBE
5	2	2	2	D2883-1	SUPPORT
6	4	4	4	D3595-083-450	RUBBER CUSHION
7		2	2	D6017-1	SUPPORT
8	4	4	4	M521920-25	CLAMP (OR M521920-20)
9	AR	AR	AR	PROSEAL 880 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 128.514±0.020
- 2) FINISH -141 & -141B: a) CHEMICAL CONVERSION COAT PER DART CSI 005 4.1
b) PRIME INSIDE AND OUTSIDE PER DART CSI 005 4.2
c) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C8-2 / C8-3, HATCHED AREA)
d) PAINT OUTSIDE PER DART CSI 005 4.2
e) REMOVE MASKING AND APPLY MATTE CLEAR COAT
f) ANODIZE PER MIL-A-8825, TYPE II, CLASS 1
g) ALODINE (DO NOT ETCH) PER CSI 004 4.1.2
h) PRIME INSIDE AND OUTSIDE PER DART CSI 005 4.2
i) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C8-2 / C8-3, HATCHED AREA)
j) PAINT OUTSIDE PER DART CSI 005 4.2
k) REMOVE MASKING AND APPLY MATTE CLEAR COAT
*NOTE: BETWEEN FINISHING OPERATIONS EXTREME CARE MUST BE TAKEN NOT TO
CONTAMINATE OR DAMAGE FINISHED SURFACES.
TOLERANCES ARE PER DART CSI 018 UNLESS OTHERWISE NOTED.
4) UNITS: INCHES UNLESS OTHERWISE NOTED.
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-884-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING
VIBRATING STYLUS
7) WEIGHT: D212-884-141/-141B/-141F = 33.6 lbs
8) PART IS SYMMETRIC ABOUT CENTERLINE
9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST
BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005"
MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
MACHINING
10) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
BENDING
11) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2%
(BASED ON O.D.) IN LOWER HALF OF R35.5 BEND AND 6% (BASED ON O.D.) ON REMAINING TUBE.
12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER CSI 038.
ASSEMBLY
13) TO INSTALL D2883-1 / D6017-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT
SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL
880 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
14) INSTALL M521920-25 CLAMPS (OR -20) WITH D3595-083-450 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP
SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT
BOTTOMED-OUT AFTER TIGHTENING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 880
SEALANT HAS CURED FOR 72 HOURS.

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 2014-05-26
145
19-12-08

RELEASED
2014-05-26
JWD

E	ADD -141E (D212-1 WAS D2082-1 (41881) PROSEAL WAS MAGNABOND, NOTE 2: ADD INSPECTION WINDOW NOTE 11: ALLOW 7.2% CRUSH, NOTE 16: ADD 22HR CURE AND RETORQUE FOR PROSEAL, ADD SHEET 3, CLAMPS REVERSED TO PREVENT CHIPPING (B7-2, B7-3), BEND HEIGHT TOL. NOW 0.28 WAS 0.13 (C1-3), INCORP. DED D-142/43	CP	14.04.01
D	REFORMAT/REVISE GENERAL NOTES(PART 107). REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZN B4-3, C8-3, & B6-3); RELOCATED FLAG #8 PER PAR 05-045 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	08.08.30
C	REMOVE -881 ABRASION STRIP; ADD MAGNABOND 880% CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATIBILITY WITH BHT1AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	CP	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
DRWING NO.			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	14.04.01		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
REV. E SHEET 1 OF 5			
XTUBE ASSY (205/212/1412 HI FWD) SCALE NTS			

